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Influence of Parenting Styles and Protective Behavioral Strategies on College Students' Alcohol Use and Alcohol-Related Consequences

Saarah Danielle Kison
University of Southern Mississippi

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The University of Southern Mississippi

INFLUENCE OF PARENTING STYLES AND PROTECTIVE BEHAVIORAL
STRATEGIES ON COLLEGE STUDENTS' ALCOHOL USE AND
ALCOHOL-RELATED CONSEQUENCES

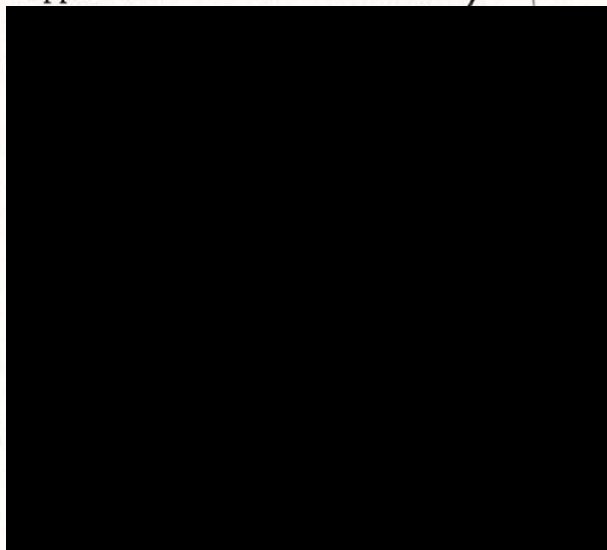
by

Saarah Danielle Kison

A Thesis

Submitted to the Graduate School
of The University of Southern Mississippi
in Partial Fulfillment of the Requirements
for the Degree of Master of Arts

Approved:



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ABSTRACT

INFLUENCE OF PARENTING STYLES AND PROTECTIVE BEHAVIORAL STRATEGIES ON COLLEGE STUDENTS' ALCOHOL USE AND ALCOHOL-RELATED CONSEQUENCES

by Saarah Danielle Kison

December 2013

The current study examined the relationships between parenting styles, protective behavioral strategies (PBS), alcohol use and negative alcohol-related consequences in college students. While parenting styles have been associated with alcohol use, there are no studies which have investigated the relationship between parenting styles and negative alcohol-related consequences. Further, while alcohol use and negative consequences have been related to PBS, no studies have investigated the relationship between parenting styles and PBS. The current study hypothesized that PBS will be a partial mediator between parenting styles and alcohol use. The current study also hypothesized that PBS will be a partial mediator between parenting styles and alcohol-related consequences. Specifically, authoritative parenting will have a positive effect on PBS, while authoritarian and permissive parenting will have a negative effect on PBS. In turn, PBS will have a negative effect on alcohol use and alcohol-related consequences. The current study sampled 345 students from The University of Southern Mississippi student population. Simple mediation analyses were conducted as outlined by Preacher and Hayes (2008) to examine if PBS partially mediates the relationship between parenting styles and alcohol use and alcohol-related consequences. The results of this study found that PBS significantly mediated the relationship between authoritarian and authoritative

that PBS significantly mediated the relationship between authoritarian and authoritative parenting styles and alcohol-related use. Further, PBS were shown to significantly mediate the relationship between authoritarian and authoritative parenting styles and alcohol-related consequences. PBS were not shown to significantly mediate the relationship between permissive parenting and alcohol use or alcohol-related consequences.

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CHAPTER I

INTRODUCTION

Influence of Parenting Styles and Protective Behavioral Strategies on

Alcohol Use and Consequences

Heavy episodic drinking in American universities is a serious public health concern (Johnston, O'Malley, Bachman, & Schulenberg, 2009). While heavy episodic drinking (four or more standard drinks for women; five or more standard drinks for men within a two hour period) among college students has remained relatively stable over the last decade, negative consequences associated with alcohol use continue to rise (Perkins, 2002). According to previous research, several predictors of negative alcohol-related consequences have been identified including alcohol use, parental monitoring (Wood, Read, Mitchell, & Brand, 2004), self-regulation (Hustad, Carey, Carey, & Maisto, 2009), and poor adjustment to college (LaBrie, Ehret, Hummer, & Prenovost, 2011). Protective behavioral strategies (PBS) are strategies used while consuming alcohol in order to prevent or reduce negative alcohol-related consequences. In addition to being associated with fewer negative consequences (Delva et al., 2004; Martens et al., 2004), PBS have also been found to mediate the relationship between alcohol-related consequences and variables such as drinking motives (Martens, Ferrier, & Cimini, 2007a), depression (Martens et al., 2008), and self-regulation (D'Lima, Pearson, & Kelley, 2012). While parenting styles have been associated with alcohol use and problems related to alcohol dependence (Hickman, Toews, & Andrews, 2001; Patock-Peckham, King, Morgan-Lopez, Ulloa, & Filson Moses, 2011), they have not been directly researched in relation to alcohol-related consequences or PBS. There is no known research, in fact, which has

examined PBS as a mediator in the relation between parenting styles and use, or between parenting styles and alcohol-related consequences. Therefore, the current study explored the hypothesis that PBS would partially mediate the relationship between parenting styles and alcohol use and between parenting styles and negative alcohol-related consequences.

College Student Alcohol Use and Consequences

Research has consistently found that college students are likely to use alcohol (Sher & Rutledge, 2007; White et al., 2006). According to Johnston et al. (2009), within a one-month period approximately 69% of students reported drinking alcohol, while 45% reported drinking enough to get drunk. According to Wechsler et al. (2002), the rate of heavy drinking among college students has remained relatively stable since 1993. However, the prevalence of alcohol-related consequences has continued to rise (Perkins, 2002).

Alcohol-related consequences are defined as the outcomes associated with excessive use of alcohol (Mallett et al., 2011). Studies have found that students who engage in heavy episodic drinking are more likely to be exposed to a multitude of harmful consequences ranging from being late to school or work, to more severe ones, such as sexual assault, impaired driving, or legal issues (Kahler, Strong, Read, Palfai, & Wood, 2004). For example, Hingson, Zha, and Weitzman (2009) found that more than 796,000 college students are victimized by alcohol-related violent crimes or sexual assaults annually. Moreover, they estimated that 1,825 U.S. college students die annually as a result of unintended alcohol-related injuries. As a result, researchers have begun to investigate predictors of alcohol-related consequences such as parental monitoring and adjustment to college (LaBrie et al., 2011; Wood et al., 2004). Additionally, there is

increasing interest in identifying those strategies currently used by college students to reduce the occurrence of these consequences in order to develop preventative education and interventions (Hickman et al., 2001; Larsen et al., 2010; Martens et al., 2007a and b; Martens et al., 2004). Protective behavioral strategies are one example of these harm reduction techniques.

Protective Behavioral Strategies

According to Martens et al. (2004), PBS are defined as, “behaviors that individuals can engage in while drinking alcohol in order to limit negative alcohol-related consequences (and excessive alcohol consumption)” (p. 390). Unlike many immutable factors that influence alcohol consumption, such as genetics and family environment, PBS can be changed or affected in real time. As a result, researchers argue that PBS have the potential to be readily taught in clinical and psycho-educational interventions (DeLucia, Belz, & Chassin, 2001; Larsen et al., 2010; Martens et al., 2007a). Three major clusters of strategies that have been empirically identified include Stopping/Limiting Drinking (i.e., engaging in behaviors such as setting a limit to the number of drinks they consume and alternating alcoholic and non-alcoholic beverages), Manner of Drinking (i.e., avoiding drinking games and shots of liquor), and Serious Harm Reduction (using a designated driver and going home with a friend) (Delva et al., 2004; Martens et al., 2007b). As the current study is the first to examine the ability of parenting to predict PBS, this construct will be examined as a whole, rather than being broken down into subgroups.

While alcohol use has been found to predict approximately 30% of the variance for alcohol-related consequences, PBS have been found to be negatively related to both

alcohol use and alcohol-related consequences (Delva et al., 2004; Howard, Griffin, Boekeloo, Lake, & Bellows, 2007). According to Martens et al. (2004), after accounting for alcohol use, a negative relationship exists between PBS and alcohol-related consequences. PBS have also been shown to partially mediate the relationship between drinking motives and both alcohol use and alcohol-related consequences (Martens et al., 2007a). Finally, PBS have been shown to partially mediate the relationship between depressive symptoms and negative alcohol-related consequences (Martens et al., 2008).

Throughout the last decade, mounting interest and research has been dedicated to understanding variables that predict PBS use. Thus far, variables such as alcohol use (Martens et al., 2004), self-control (Pearson, Kite, & Henson, 2012), self-regulation (D'Lima, Pearson, & Kelley, 2012), and drinking motives (Martens et al., 2007a) have been identified as significant predictors. Among these variables, parenting styles have emerged as one of particular interest because they have been associated with variables, related to alcohol use and alcohol-related consequences (LaBrie et al., 2011; Tildesley & Andrews, 2008).

Parenting Styles

The majority of literature on parenting and alcohol use has been focused on parental monitoring (Beck, Boyle, & Boekeloo, 2004). Of relevance to the current study, low parental monitoring has been associated with higher rates of alcohol use and alcohol-related consequences in adolescents (Wood et al., 2004). Researchers have begun to explore the impact of the more broad constructs associated with parenting styles on college student alcohol use due to the assertion that parenting styles are closely associated with parental monitoring and may be a more global indication of parenting

approaches (Choquet, Hassler, Morin, Falissard, & Chau, 2008; Patock-Peckham et al., 2011).

Specifically, parenting styles are processes by which parents make decisions concerning their children and are based on the interacting constructs of warmth, the empathetic understanding of and receptiveness to one's child, and control, the enforcement of specific rules for conduct (Baumrind, 1971; Buri, 1991). Baumrind (1971) proposed a parenting style model which includes three distinct parenting styles: Permissive, Authoritarian, and Authoritative parenting. The Baumrind model has been widely used in the parenting style literature, as well as in the literature specifically dedicated to the impact of parenting styles on adolescent alcohol use (Patock-Peckham et al., 2011; Patock-Peckham & Morgan-Lopez, 2006). Permissive parenting is characterized by allowing a child to make his or her own decisions yet not taking part in the regulation of a child's behaviors. Thus, permissive parenting entails high warmth with little control. Conversely, authoritarian parents do not consult with their children in decision making and expect to be obeyed as an absolute authority. As a result, authoritarian parents are characterized as having low warmth with high control. Finally, authoritative parenting is characterized by a parent who promotes a democratic decision making process and gives rationale to rule making, but sets clear and firm boundaries. Thus, authoritative parenting is characterized by high amounts of both warmth and control (Baumrind, 1971; Buri, 1991).

Parenting Styles, College Alcohol Use and Alcohol-Related Consequences

Parenting styles have been associated with multiple predictors of alcohol use and alcohol-related consequences, such as adjustment to college (LaBrie et al., 2011), self-

regulation (Patock-Peckham, Cheong, Balhorn, & Nagoshi, 2001), and impulsivity (Patock-Peckham & Morgan-Lopez, 2006). For example, parenting styles have been associated with several aspects of college adjustment (Hickman et al., 2001), GPA, confidence, and persistence (Strage & Brandt, 1999). In turn, a student's positive adjustment to college has negative relationship to alcohol use (LaBrie et al., 2011).

Parenting styles have also been shown to be related directly to alcohol use. Some researchers believe that through social learning, parenting styles impact adolescent self-regulatory processes, which in turn impact their alcohol use and problem drinking behaviors (Bandura & Walters, 1963; Patock-Peckham et al., 2001). When an adolescent is parented through a style promoting self-regulation, they will in turn begin to internalize self-regulatory behaviors resulting in less alcohol use. However, when self-regulation is not learned, adolescents are likely to have a perceived inability to control their drinking (Patock-Peckham et al., 2001; Patock-Peckham & Morgan-Lopez, 2006).

Through the use of pathway analysis, Patock-Peckham et al. (2001) found permissive parenting to have a negative relationship with self-regulation, which in turn had a negative relationship with alcohol use. Authoritative parenting had a positive relationship with self-regulation, which in turn had a negative relationship with alcohol use. Interestingly, authoritarian parenting did not display a significant relationship to self-regulation. In a follow-up study, Patock-Peckham and Morgan-Lopez (2006) found that both impulsivity and drinking control mediated the relationship between parenting styles and alcohol use. Permissive and authoritarian parenting styles were positively related to impulsivity, which mediated the relationship between these two parenting styles and alcohol use. Authoritative parenting was negatively related to impulsivity, which also

mediated the relationship between this parenting and alcohol use. Additionally, permissive parenting was negatively related to drinking control, which mediated the relationship between permissive parenting and alcohol use. Authoritative parenting was positively related to drinking control, which mediated the relationship between authoritative parenting and alcohol use. Drinking control was not shown to mediate the relationship between authoritarian parenting and alcohol use. Based on these findings, it was anticipated that parenting styles will differentially impact alcohol use and associated consequences in the current study.

Although previous literature has not examined the relationship between parenting styles and alcohol-related consequences, literature on self-regulation and impulsivity suggests that high self-regulation and low impulsivity have a negative relationship to alcohol-related consequences (Hustad et al., 2009). Additionally, parental monitoring and adjustment to college, which are influenced by parenting styles, have been shown to predict the occurrence of alcohol-related consequences (LaBrie et al., 2011; Wood et al., 2004). Finally, there is an established relationship between alcohol use and consequences (Martens et al., 2004), and it is anticipated that parenting styles will affect alcohol use and consequences in a similar manner.

Parenting and Protective Behavioral Strategies

Few studies have explored parenting-related variables as predictors of PBS. Intervention-based studies examining PBS as an intervention to reduce alcohol use have found that parenting may have some influence on PBS use and related consequences. For example, Turrisi et al. (2009) found that when implemented along with interventions which incorporate PBS, a parent-based intervention was shown to further diminish heavy

alcohol consumption and alcohol-related consequences. Additionally, Walters, Roudrasi, Vader, and Harris (2007) found that college students with parents who abuse alcohol were less likely to utilize PBS when engaging in alcohol consumption. Currently no research has been conducted to examine the relationship between parenting styles and PBS; however, recent research has found that self-regulation and control, constructs predicted by parenting styles, were shown to be significant predictors of PBS (D'Lima, et al., 2012; Pearson et al., 2012). Clearly, more research is needed to determine the ways in which PBS may mediate the relation between parenting styles and associated alcohol-related outcomes.

Statement of Purpose

Given the problems associated with college alcohol consumption, recent research has focused on variables which may be related to a reduction in alcohol-related use and alcohol-related consequences. Parenting styles are shown to be associated with alcohol use. Further, this relationship is shown to be mediated by constructs such as self-regulation (Patock-Peckham et al. 2001) and impulsivity (Patock-Peckham & Morgan-Lopez, 2006). Although these relationships have been found, PBS, a construct similar to self-regulation and impulsivity (D'Lima et al., 2012), has yet to be explored as a mediator between parenting styles and alcohol use. Thus, the first research question examined the hypothesis that PBS will partially mediate the relationships between parenting styles and alcohol use. Based on past findings on constructs such as self-regulation and parenting styles, it was hypothesized that authoritative parenting will have a positive effect on PBS, while authoritarian and permissive parenting will have a negative effect on PBS. In turn, it was expected that PBS would have a negative effect on alcohol use.

Parenting styles are associated with alcohol use (Patock-Peckham & Morgan-Lopez, 2006), but have not been researched in relation to alcohol-related consequences. Therefore, the second research question explored the hypothesis that parenting styles will predict alcohol-related consequences. Specifically, based on previous findings of parenting styles predicting alcohol use, it was hypothesized that authoritative parenting will be negatively associated with alcohol-related consequences, while authoritarian and permissive parenting will be positively associated with alcohol-related consequences.

PBS have been found to be associated with fewer alcohol-related consequences (Martens et al., 2004) and have been shown to mediate the relationship between alcohol-related consequences and constructs such as drinking motives (Martens et al., 2007a), depressive symptoms (Martens et al., 2008), self-control (Pearson et al., 2012), and self-regulation (D'Lima et al., 2012). Researchers have yet to explore the impact that PBS has on the relationship between parenting styles and alcohol-related consequences. Therefore, the third research question examined the hypotheses that PBS will partially mediate the relationship between parenting styles and alcohol-related consequences.

Research Questions

Research Question 1: Do protective behavioral strategies partially mediate the relationships between parenting styles and alcohol use?

Research Question 2: Is there a significant relationship between parenting styles and negative alcohol-related consequences?

Research Question 3: Do protective behavioral strategies partially mediate the relationships between parenting styles and alcohol-related consequences?

CHAPTER II

METHODOLOGY

Participants

Data for this study were previously collected from 345 acceptable participants. Students were sampled from a large southeastern university undergraduate student pool. Participants ranged in age from 18 to 25 years old ($M = 19.48$; $SD = 1.53$) and were required to have consumed alcohol within the past 30 days. Sixty-four percent of all participants were female and 36% were male. Sixty percent of participants self-identified as Caucasian, Non-Hispanic, while the remaining 40% self-identified as Non-White. Further, those self-identifying as African American constituted 35% of the overall population, and the majority of the Non-White population.

Instruments

Demographic Questionnaire

A demographic questionnaire (Appendix A) was used in order to collect participant information such as age, gender, and year in school.

Parental Authority Questionnaire (PAQ)

The PAQ (Buri, 1991) was used to retrospectively examine the parenting styles of a caregiver chosen by the participant. This measure was developed to measure Baumrind's three dimensions: Authoritative, Authoritarian, and Permissive Parenting. Participants were asked to select one caregiver and rated their perceptions of this caregiver's parenting style using a 5-point Likert-type scale ranging from 1 "Strongly Agree" to 5 "Strongly Disagree." The PAQ demonstrates content validity when examined by a group of professionals and criterion validity when compared to similar measures.

Additionally, the PAQ displays acceptable test-retest reliability with scores for both mothers and fathers ranging from .77 to .92; the PAQ also displays internal consistency with an alpha coefficient of .87 (authoritarian), .89 (authoritative) and .87 (permissive) within the current sample.

Protective Behavioral Strategies Scale (PBSS)

The PBSS (Martens et al., 2005) was used to measure the “cognitive behavioral strategies designed to decrease high risk drinking and associated alcohol-related problems” (Martens et al., 2009, p. 277). The PBSS is based on a three-factor model where participants rated the degree to which they typically engage in strategies such as “determine not to exceed a certain number of drinks” (Stopping/Limiting Drinking), “avoid mixing different types of alcohol” (Manner of Drinking) and “know where your drink is at all times” (Serious Negative Consequences) (Martens et al., 2007b). Participants rated their level of use on a 15 item, 6-point Likert-type scale ranging from 1 “Never” to 6 “Always” with higher scores indicating more use of a given strategy. Participants received a total score regarding their overall use of protective behavioral strategies. The PBSS displays acceptable convergent validity when compared to similar measures. The PBSS display sufficient internal consistency with a Chronbach’s alpha of .92 within the current sample.

Rutgers Alcohol Problems Index (RAPI)

The RAPI (White & Labouvie, 1989) was used to assess alcohol-related consequences. The RAPI is a 23 item scale that assesses the frequency with which participants have experienced consequences as a result of alcohol consumption. Participants rated the occurrence of consequences, such as “Not able to do homework or

study for a test,” on a 4-point Likert-type scale ranging from 0 “Never” to 4 “More than ten times.” A total score will be used with higher scores indicating more frequent alcohol-related consequences. The RAPI displays acceptable convergent validity when scores are correlated with alcohol consumption. The RAPI also displayed acceptable internal consistency within the current study with a Chronbach’s alpha of .94.

Daily Drinking Questionnaire (DDQ)

Questions assessing alcohol use were taken from the DDQ (Collins, Parks, & Marlatt, 1985). Participants were asked to report how many standard drinks they typically consume on each day of the week. Drinks per week were then calculated by summing the total amount of drinks consumed for a seven day week for each participant. The DDQ displays convergent validity when compared to its full version, the Daily Practices Questionnaire, with an acceptable Pearson correlation of .50 (Collins et al., 1985).

Procedure and Data Collection

Data for this study were collected prior to proposal as part of a larger research project examining several predictors associated with college student alcohol consumption. Participants were recruited through SONA Systems (usm.sona-systems.com/), an online survey conductor used in The University of Southern Mississippi Psychology Department to distribute psychology surveys in exchange for class credit. The online survey contained informed consent (Appendix B) and all study materials. Approval from The University of Southern Mississippi’s Institutional Review Board was attained for archival data using a human subjects protocol (Appendix C).

Hypotheses

Research Question 1: Do protective behavioral strategies partially mediate the relationships between various parenting styles and alcohol use?

H1a: PBS will partially mediate the relationship between an authoritative parenting style and alcohol use such that authoritative parenting will have a positive effect on PBS, which will in turn have a negative effect on alcohol use.

H1b: PBS will partially mediate the relationship between an authoritarian parenting style and alcohol use such that authoritarian parenting will have a negative effect on PBS, which will in turn have a negative effect on alcohol use.

H1c: PBS will partially mediate the relationship between permissive parenting style and alcohol use such that permissive parenting will have a negative effect on PBS, which will in turn have a negative effect on alcohol use.

Research Question 2: Is there a significant relationship between the various parenting styles and negative alcohol-related consequences?

H2a: Authoritative parenting will be negatively related to alcohol-related consequences.

H2b: Authoritarian parenting will be positively related to alcohol-related consequences.

H2c: Permissive parenting will be positively related to alcohol-related consequences.

Research Question 3: Do protective behavioral strategies partially mediate the relationships between various parenting styles and alcohol-related consequences?

H3a: PBS will partially mediate the relationship between an authoritative parenting style and alcohol-related consequences such that authoritative parenting will have a positive effect on PBS, which will in turn have a negative effect on alcohol-related consequences.

H3b: PBS will partially mediate the relationship between an authoritarian parenting style and alcohol-related consequences such that authoritarian parenting will have a negative effect on PBS, which will in turn have a negative effect on alcohol-related consequences.

H3c: PBS will partially mediate the relationship between a permissive parenting style and alcohol-related consequences such that permissive parenting will have a negative effect on PBS, which will in turn have a negative effect on alcohol-related consequences.

Results

To put the results of this study into context, means and standard deviations for each of the measures were calculated (see Table 1). On average, participants perceived their parents to utilize moderate levels of Authoritative, Authoritarian, and Permissive parenting behaviors. Participants also reported having designated drivers, knowing where their drinks are at all times, and avoiding shots as the most frequently used protective behavioral strategies. On average, participants experienced low levels of alcohol-related consequences, with the occurrence of a hangover being the most frequently endorsed. Participants reported drinking an average of 10.89 standard drinks per week ($SD = 10.65$). Correlations for all variables of interest are presented in Table 1. Of note, Authoritative and Authoritarian parenting were negatively related to alcohol-related

consequences, while Permissive parenting was positively correlated with alcohol-related consequences. Additionally, Authoritarian and Authoritative parenting were positively related to the use of PBS, while Permissive parenting was not related to the use of PBS.

Table 1

Correlations of Parenting Styles, Alcohol Use, PBS and Alcohol-related Consequences

Variables	1	2	3	4	5	6
1. DDQ	-					
2. RAPI	.337**	-				
3. PBSS	.344**	.113*	-			
4. PAQ-Permissive	.151**	.113*	-.001	-		
5. PAQ-Authoritarian	-.051	-.169**	.173**	.120*	-	
6. PAQ-Authoritative	-.010	-.143**	.173**	.286**	.316**	
Mean	10.89	12.08	59.49	27.35	33.44	34.62
SD	10.65	13.13	16.60	8.27	7.83	8.16

Note. * $p < .05$ ** $p < .01$

DDQ= Alcohol Use; RAPI= Alcohol-related Consequences; PBSS= Protective Behavioral Strategies; PAQ= Parenting Styles

To examine the research questions, several mediation analyses were conducted utilizing the procedures outlined by Baron and Kenny (1986). Accordingly, three assumptions must be met for partial mediation. First, the independent variable must significantly predict the proposed mediator (path *a*). Second, the proposed mediator must significantly predict the dependent variable (path *b*). Third, a previously significant relationship between the independent and dependent variables (total effect; path *c'*) is

reduced (direct effect; path c) after insertion of the mediator into the model (Baron & Kenny, 1986).

Although it is important to understand whether there is a total effect, there are instances of full mediation, known as inconsistent mediation, where there is non-significant relationship between the independent and dependent variables (Mackinnon, Fairchild, & Fritz, 2007). Within an inconsistent mediation path a and/or path b have an opposite sign (i.e., positive or negative) than that of the total effect (path c'). As a result of having at least one opposite sign, the indirect effect suppresses the total effect (Kenny, 2012). Thus, in order to assess for any significant inconsistent mediation, procedures outlined by Preacher and Hayes (2008) were also utilized. Any inconsistent mediation was detected using bootstrapping, a nonparametric resampling technique, which makes no assumptions for a normal distribution. The bootstrapping procedure involves resampling the data set multiple times and estimating the indirect effect each time. As recommended by Preacher and Hayes (2008) the data set was resampled 5,000 times to generate an estimation of the indirect effect. Through this process a 95% confidence interval was established for the indirect effect. If the confidence interval did not cross zero then a significant mediation was detected. Finally, if any mediation was detected the percent mediated, or ratio of indirect to total effect, was examined. Analyses were conducted using the process macro created for SPSS by Preacher and Hayes. Standardized beta coefficients for each relationship were derived using the student version of AMOS.

Hypothesis 1

Hypothesis 1 stated that PBS would partially mediate the relationships between parenting styles and alcohol use. Three separate sets of analyses were conducted with each of the three parenting styles as outlined above. Hypothesis 1a stated that PBS will partially mediate the relationship between an authoritative parenting style and alcohol use. Results suggested an inconsistent mediation as outlined above. Thus, prior to adding PBS as a mediator, authoritative parenting did not significantly predict alcohol use (*path c'*; $\beta = -.010, p > .05$). After adding PBS, authoritative parenting significantly predicted PBS (*path a*; $\beta = .173, p < .001$), PBS significantly predicted alcohol use (*path b*; $\beta = -.353, p < .001$), but authoritative parenting did not significantly predict alcohol use (*path c*; $\beta = .051, p > .05$). Therefore, according to the criteria outlined by Mackinnon et al. (2007), PBS significantly mediated the relationship between authoritative parenting and alcohol use (mediated effect = $-.067$ [CI = $-.136, -.033$]). Therefore, Hypothesis 1a was supported as illustrated in Figures 1a and 1b.

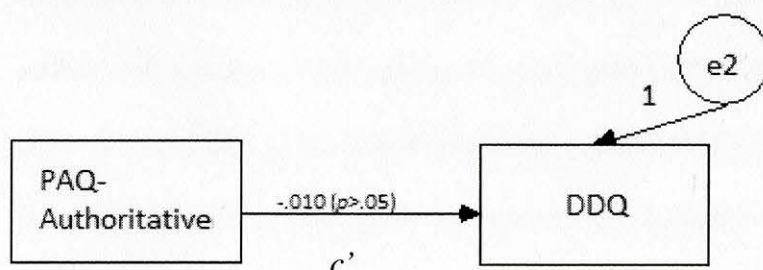


Figure 1a. Total effect of authoritative parenting on alcohol use. PAQ= Parenting Styles; DDQ= Alcohol Use.

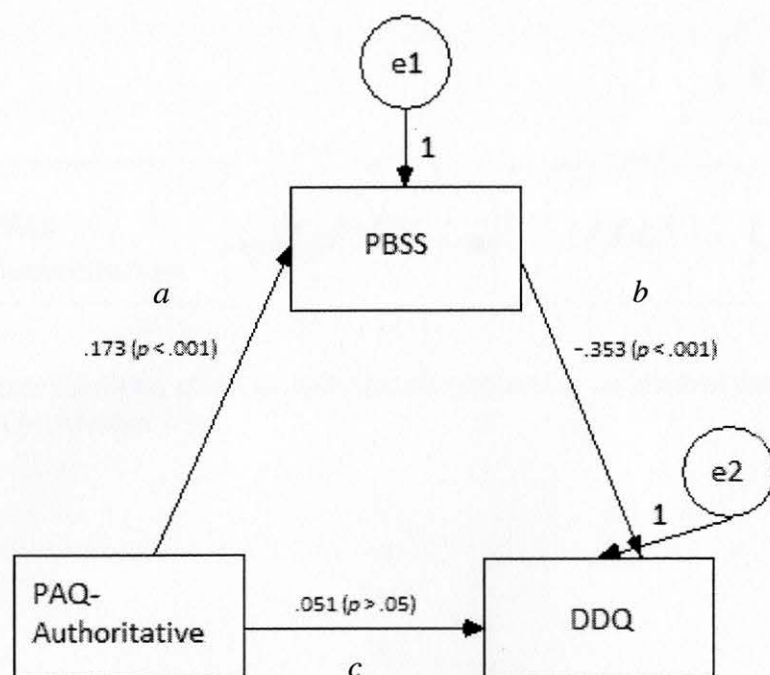


Figure 1b. Mediating effect of PBS on authoritative parenting and alcohol use. PAQ= Parenting Styles; DDQ= Alcohol Use; PBSS= Protective Behavioral Strategies.

Hypothesis 1b stated that PBS will partially mediate the relationship between an authoritarian parenting style and alcohol use. Results suggested an inconsistent mediation (MacKinnon, Fairchild, & Fritz, 2007). Thus, prior to adding PBS as a mediator, authoritarian parenting did not significantly predict PBS (*path c'*; $\beta = -.051, p > .05$). After adding PBS, authoritarian parenting significantly predicted the use of PBS (*path a*; $\beta = .173, p < .001$), PBS significantly predicted alcohol use (*path b*; $\beta = -.346, p < .001$), but authoritarian parenting did not significantly predict alcohol use (*path c*; $\beta = .009, p > .05$). PBS significantly mediated the relationship between authoritarian parenting and alcohol use (mediated effect = $-.081$ [CI = $-.141, -.035$]). Therefore, Hypothesis 1b was supported as illustrated in Figures 2a and 2b.

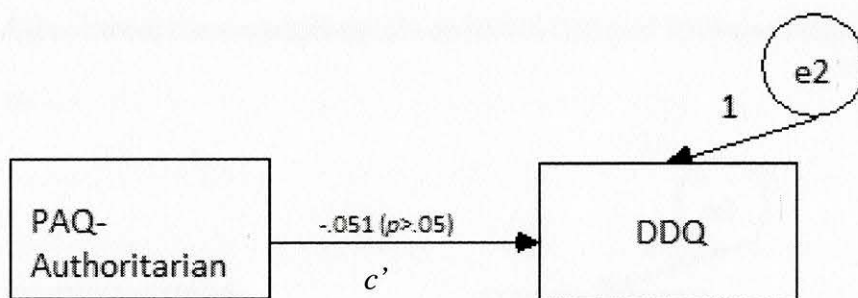


Figure 2a. Total effect of authoritarian parenting on alcohol use. PAQ= Parenting Styles; DDQ= Alcohol Use.

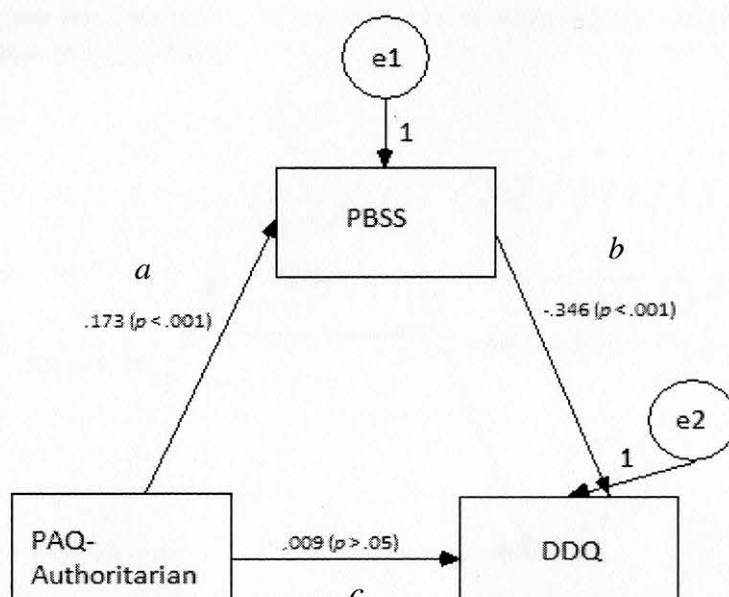


Figure 2b. Mediating effect of PBS on authoritarian parenting and alcohol use. PAQ= Parenting Styles; DDQ= Alcohol Use; PBSS= Protective Behavioral Strategies.

Hypothesis 1c stated that PBS will partially mediate the relationship between a permissive parenting style and alcohol use. Prior to adding PBS as a mediator, permissive parenting significantly predicted PBS (*path c'*; $\beta = .151, p < .01$). After adding PBS, permissive parenting did not significantly predict PBS (*path a*; $\beta = -.001, p > .05$), PBS significantly predicted alcohol use (*path b*; $\beta = -.344, p < .001$), and permissive parenting significantly predicted alcohol use (*path c*; $\beta = .151, p < .001$). Therefore, Hypothesis 1c

did not meet the assumptions of mediation outlined above as illustrated in Figures 3a and 3b.

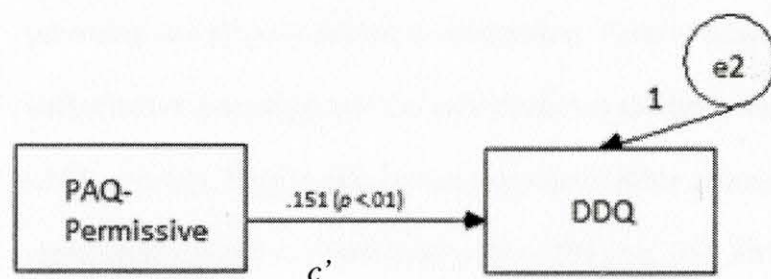


Figure 3a. Total effect of permissive parenting on alcohol use. PAQ= Parenting Styles; DDQ= Alcohol Use.

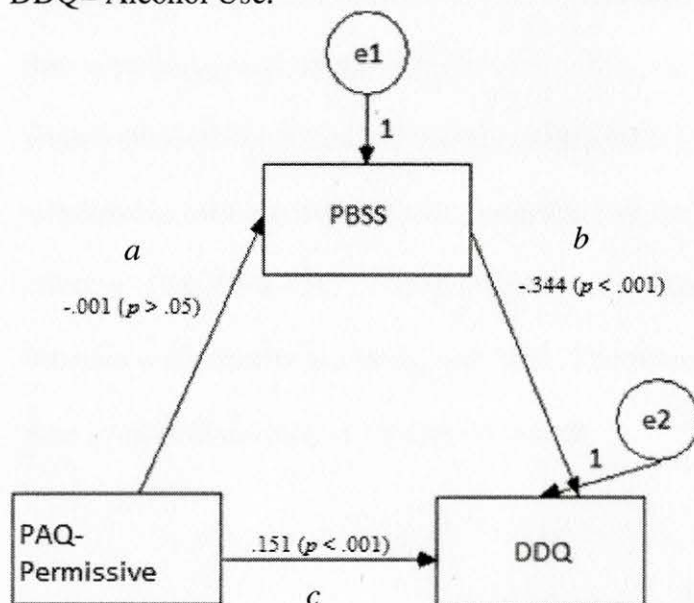


Figure 3b. Non-significant mediating effect of PBS on permissive parenting and alcohol use. PAQ= Parenting Styles; DDQ= Alcohol Use; PBSS= Protective Behavioral Strategies.

Hypotheses 2 and 3.

Hypothesis 2 stated that parenting styles will significantly predict alcohol-related consequences, while Hypothesis 3 stated that PBS will mediate the relationship between parenting styles and alcohol-related consequences. Three separate sets of analyses were conducted with each of the three parenting styles as outlined above. Hypothesis 2a stated

that authoritative parenting will significantly predict alcohol-related consequences, while Hypothesis 3a stated that PBS will mediate the relationship between authoritative parenting and alcohol-related consequences. Prior to adding PBS as a mediator, authoritative parenting significantly predicted alcohol-related consequences (*path c'*; $\beta = -.143, p < .01$). Hypothesis 2a was supported. After adding PBS, authoritative parenting significantly predicted PBS (*path a*; $\beta = .173, p < .05$), PBS significantly predicted alcohol-related consequences (*path b*; $\beta = -.235, p < .001$), and authoritative parenting still significantly predicted alcohol-related consequences; however, the significance of this relationship was reduced (*path c*; $\beta = -.103, p < .05$). Therefore, according to the criteria set forth by Baron and Kenny (1986), PBS significantly partially mediated the relationship between authoritative parenting and alcohol-related consequences (mediated effect = $-.066$ [CI = $-.117, -.026$]). Additionally, PBS mediated 28% of the relationship between authoritative parenting and PBS. Therefore, both Hypothesis 2a and 3a were supported as illustrated in Figures 4a and 4b.

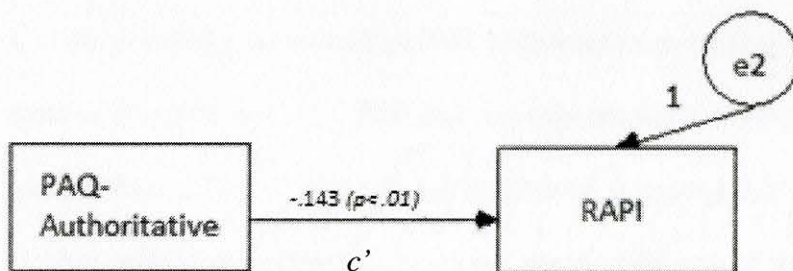


Figure 4a. Total effect of authoritative parenting on alcohol-related consequences. PAQ= Parenting Styles; RAPI= Alcohol-related Consequences.

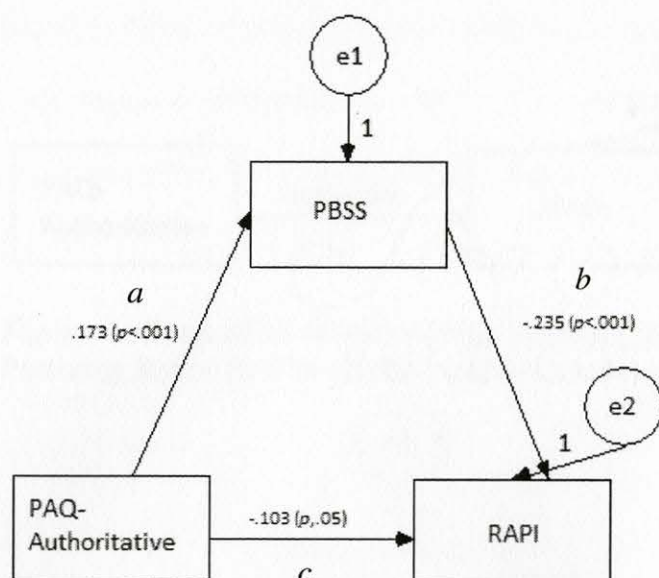


Figure 4b. Mediating effect of PBS on authoritative parenting and alcohol-related consequences. PAQ= Parenting Styles; RAPI= Alcohol-related Consequences; PBSS= Protective Behavioral Strategies.

Hypothesis 2b stated that authoritarian parenting will significantly predict alcohol-related consequences, while Hypothesis 3b stated that PBS will mediate the relationship between authoritarian parenting and alcohol-related consequences. Prior to adding PBS as a mediator, authoritarian parenting significantly predicted PBS (*path c'*; $\beta = -.169, p < .001$). After adding PBS authoritarian parenting significantly predicted PBS (*path a*; $\beta = .173, p < .01$), PBS significantly predicted alcohol-related consequences (*path b*; $\beta = -.231, p < .001$), and authoritarian parenting still significantly predicted alcohol-related consequences; however, the significance of this relationship was reduced (*path c*; $\beta = -.129, p < .01$). PBS significantly partially mediated the relationship between authoritarian parenting and alcohol-related consequences (mediated effect = $-.067$ [CI = $-.119, -.026$]). Additionally, PBS mediated 24% of the relationship between authoritarian parenting and PBS. Therefore, Hypotheses 2b and 3b were supported as illustrated in Figures 5a and 5b.

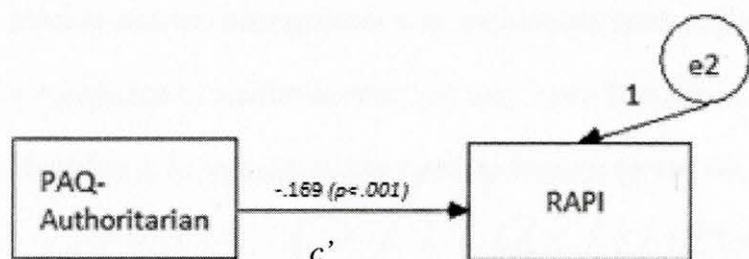


Figure 5a. Total effect of authoritarian parenting on alcohol-related consequences. PAQ= Parenting Styles; RAPI= Alcohol-related Consequences.

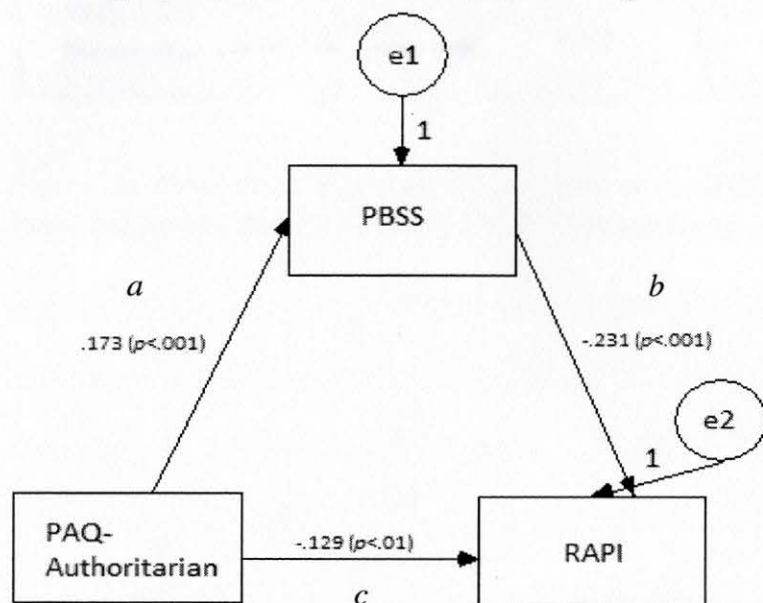


Figure 5b. Mediating effect of PBS on authoritarian parenting and alcohol-related Consequences. PAQ= Parenting Styles; RAPI= Alcohol-related Consequences; PBSS= Protective Behavioral Strategies.

Finally, Hypothesis 2c stated that permissive parenting will significantly predict alcohol-related consequences, while Hypothesis 3a stated that PBS will mediate the relationship between permissive parenting and alcohol-related consequences. Prior to adding PBS as a mediator, permissive parenting significantly predicted PBS (*path c'*; $\beta = .113, p < .05$). After adding PBS, permissive parenting did not significantly predict PBS (*path a*; $\beta = -.001, p > .05$), PBS significantly predicted alcohol-related consequences (*path b*; $\beta = -.253, p < .001$), and the relationship between permissive parenting and

alcohol-related consequences was not reduced (path c ; $\beta = .113, p < .05$). Thus, the assumptions of mediation were not met. Therefore, while Hypothesis 2c was supported, Hypothesis 3c was not as illustrated in Figures 6a and 6b.

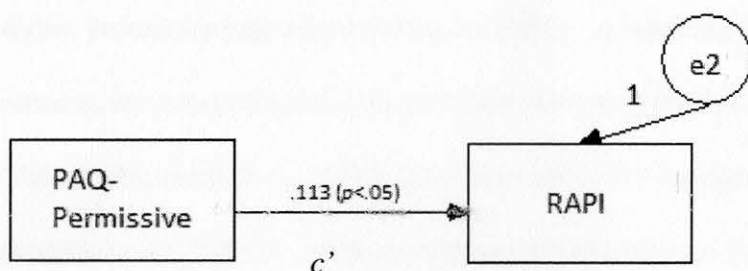


Figure 6a. Total effect of permissive parenting on alcohol-related consequences. PAQ= Parenting Styles; RAPI= Alcohol-related Consequences.

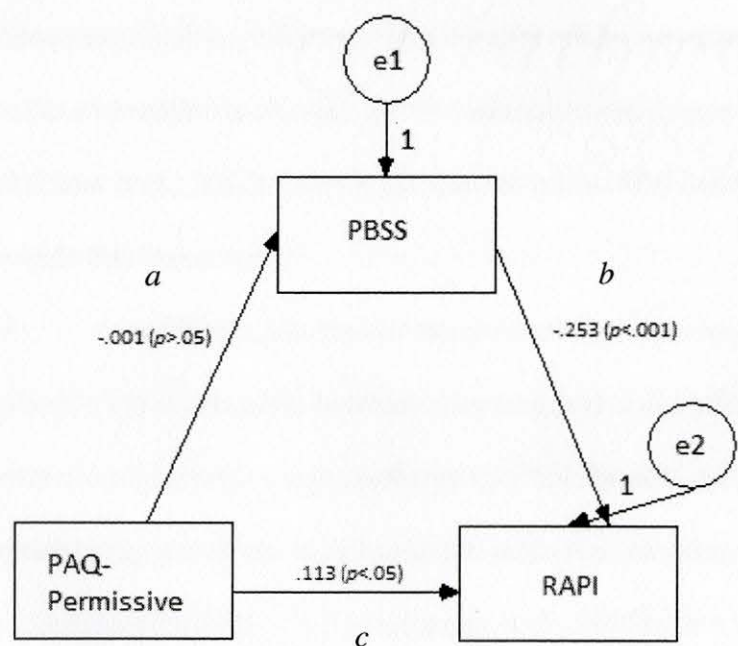


Figure 6b. Non-significant mediating effect of PBS on permissive parenting and alcohol-related consequences. PAQ= Parenting Styles; RAPI= Alcohol-related Consequences; PBSS= Protective Behavioral Strategies.

CHAPTER III

DISCUSSION

The purpose of the current study was to explore the relationship between parenting styles, protective behavioral strategies (PBS), alcohol use and negative alcohol-related consequences in college students. While parenting styles have been related to alcohol use (Patock-Peckham et al., 2001), they have yet to be explored in relation to alcohol-related consequences. Further, while parenting styles have been found to predict constructs such as self-regulation (Patock-Peckham et al., 2001), impulsivity, and self-control (Patock-Peckham & Morgan-Lopez, 2006), researchers have yet to explore the relationship between parenting styles and PBS. Finally, while parenting styles have been shown be indirectly related to alcohol use through constructs similar to PBS, such as self-regulation (D'Lima et al., 2012), prior to the current study, PBS had yet to be explored as a mediator within this framework.

Accordingly, the current study examined three sets of hypotheses that explored whether the relationship between parenting styles and alcohol use and negative alcohol-related consequences were mediated by PBS. Results indicated that PBS mediated the relationship between authoritative and authoritarian parenting and alcohol use through inconsistent mediation by (Mackinnon et al., 2007). This was an instance of full mediation where the positive relationships between authoritative and authoritarian parenting and PBS, in conjunction with the negative relationship between PBS and alcohol use, had a suppressive effect on the direct relationship between these parenting styles and alcohol use. Results also indicated that PBS partially mediated the relationship between authoritative and authoritarian parenting and alcohol-related consequences. PBS

was not found to mediate a relationship between permissive parenting and alcohol use or alcohol-related consequences.

Discussion of Hypotheses

Hypothesis 1

Current findings supported the initial hypothesis that PBS would mediate the relationship between parenting styles and alcohol use. Specifically, the more students perceived their parents as having authoritative and authoritarian parenting styles, the more they reported using PBS. In turn, more reports of PBS use were related to fewer reports of alcohol use. However, PBS was not found to mediate the relationship between permissive parenting and alcohol use. One potential explanation for this is that parenting styles that utilize the domain of control (i.e., authoritative and authoritarian parenting) may have a greater influence on constructs such as PBS, which require skills such as self-regulation. For example, Williams, Ciarrochi, and Heaven (2012) examined the influence of parenting styles on psychological flexibility, a term which has been used interchangeably with self-regulation. In the study, they found that while authoritative and authoritarian parenting styles were significant predictors of psychological flexibility, permissive parenting was not. In their discussion, Williams and colleagues suggested that behaviors in the *control domain* would be most influenced by parenting styles that utilize control. It appears that in the current sample, parenting styles that promote control resulted in a greater use of PBS, which in turn resulted in fewer reports of alcohol use. Thus, results suggest that the indirect relationship that authoritative and authoritative parenting have with alcohol use through the use of PBS is more important than the direct impact of these parenting styles on alcohol use.

Hypothesis 2

Another goal of this study was to examine whether parenting styles have the ability to predict negative alcohol-related consequences. It was hypothesized that authoritative parenting would be predictive of fewer reports of alcohol-related consequences, while authoritarian and permissive parenting would be predictive of more reports of alcohol-related consequences. Results indicated that authoritative, authoritarian, and permissive parenting styles were significant predictors of negative alcohol-related consequences. These findings are consistent with literature which has found significant relationships between parenting styles and alcohol use (Patock-Peckham & Morgan-Lopez, 2006; Patock-Peckham et al., 2001) and between alcohol use and negative alcohol-related consequences (Wood et al., 2004). However, authoritarian parenting did not predict alcohol-related consequences in the hypothesized direction. Thus, it was found that authoritative and authoritarian parenting styles were predictive of lower rates of alcohol-related consequences, while permissive parenting was predictive of higher rates of alcohol-related consequences.

One potential explanation as to why authoritarian parenting was shown to be associated with fewer alcohol-related consequences may be due to the relatively large sample of African American participants within this sample. Specifically, while past research has concluded that authoritarian parenting has negative effects on college student adjustment (Weiss & Schwarz, 1996), some studies have shown that an authoritarian style of parenting has more positive effects in African American populations (Brody & Flor, 1998). An additional explanation for these results may be that like African Americans, authoritarian parenting has been found to be more of a protective

factor for cultures that display a largely collectivist orientation, such as the southeastern region of the United States where this sample was collected (Vandello & Cohen, 1999). Thus, race may also be a potential moderator of the relationship between parenting styles and alcohol-related consequences that was not accounted for by the current study.

Hypothesis 3

Finally, this study sought to explore whether PBS were a significant partial mediator between parenting styles and alcohol-related consequences. The current study yielded results which found that PBS significantly partially mediated the relationship between authoritative and authoritarian parenting styles and alcohol-related consequences. However, PBS did not mediate the relationship between permissive parenting and alcohol-related consequences. These results may also potentially be explained based on the assumed relationship between parental limit setting and development of self-regulatory strategies discussed previously. Specifically, parenting styles that promote control resulted in a greater use of PBS, which in turn resulted in fewer reports of alcohol-related consequences. Thus, college student use of PBS accounted partially for the ability of authoritative and authoritarian parenting styles to predict alcohol-related consequences.

Limitations

While informative, the current results should be interpreted in light of methodological limitations. First, there were a high number of female participants within this study. Thus, caution should be used when generalizing to male participants. Another potential limitation of this study was using the method of self-report. Although retrospective reports of parenting styles are widely used, no ideal standard of data

collection exists for this construct (Harlaar et al., 2008). However, in an experimental study by De Los Reyes et al. (2013), results indicated that parent and adolescent reports on child and family behavior differ based on setting. Further, while computer-based assessment has been shown to result in more honest reports on sensitive topics such as alcohol use (Simoës, Bastos, Moreira, Lynch, & Metzger, 2006), reports of alcohol use and alcohol-related consequences by the current sample may still be underrepresented due to the impression management which has been found to occur with participants reporting on these types of constructs (Davis, Thake, & Vilhena, 2010). Taken together, it is evident that retrospective self-report is an inexact science, and limitations in data collection should be considered.

Future Research Directions

In light of the results of the current study, future research should examine whether the relationships between parenting styles, PBS, alcohol use, and negative alcohol-related consequences are influenced by race and/or gender. Specifically, due to the unexpected finding which suggested that authoritarian parenting is associated with more frequent use of PBS and fewer alcohol-related consequences, future research may benefit from understanding whether this finding was influenced by races or regions which typically utilize an authoritarian approach to parenting. Further, while unexamined within the current study, future research should examine the impact of gender on the relationship between parenting styles, PBS, and alcohol use. Specifically, in past studies, maternal parenting styles yielded significant results for both alcohol use and constructs related to PBS (i.e., self-regulation and impulsivity) with female participants, while paternal parenting styles yielded significant results for male participants (Patock-Peckham &

Morgan-Lopez, 2006; Patock-Peckham et al., 2001). Thus, gender of both parent and participant may play a moderating role in the relationship between parenting styles, PBS and alcohol use. Future research may also benefit from examining the role of self-regulation in the relationship between parenting styles and PBS. Specifically, because parenting styles have been found to significantly predict self-regulation (Patock-Peckham et al., 2001), which has separately been found to predict PBS use (D'Lima et al., 2012), future research may benefit from exploring whether self-regulation mediates the relationship between parenting styles and PBS. Finally, future research may benefit from examining the mediating effects of individual subgroups of PBS in order to discern whether specific strategies are responsible for mediating the relationships between parenting styles and alcohol-related consequences.

Clinical Implications

Based on the findings of the current study, it appears as if parenting styles which utilize the domain of control may influence an increase in the use of PBS, which based on relationships found in previous literature, may result from the ability to regulate one's behavior. Thus, it may be important to understand the roles that learned control and self-regulation may play in Brief Alcohol Interventions that educate students on the use of PBS. Perhaps, it may be important to screen students' ability to self-regulate and use these results in discussions concerning their ability to utilize PBS. Additionally, the implementation of booster sessions geared toward learned control may be helpful for those students who are unable to self-regulate.

Conclusion

The current study found novel evidence to suggest that the relationship between parenting styles and alcohol use is better explained through the use of PBS. The results also suggest that parenting styles have the ability to significantly predict alcohol-related consequences. Additionally, evidence was found to suggest that the relationship between authoritative and authoritarian parenting styles and PBS partially accounts for the relationship between these parenting styles and alcohol-related consequences. Due to aforementioned limitations of the current study, moderating relationships of gender and race are suggested for future research on these constructs. Additionally, constructs such as self-regulation and constructs related to permissive parenting may also be beneficial avenues of future research. Finally, future research may benefit from examining the mediating effects of individual subgroups of PBS.

APPENDIX A

DEMOGRAPHICS

*** How old are you?**

*** What is your current academic status?**

- ☐ Freshman
- ☐ Sophomore
- ☐ Junior
- ☐ Senior

*** What is your approximate college GPA? If you are a freshman and have not established a college GPA yet, please report your high school GPA.**

*** What is your gender?**

- ☐ Male
- ☐ Female

***What is your racial/ethnic background?**

- ☐ White
- ☐ Black or African American
- ☐ Hispanic
- ☐ American Indian or Alaska Native
- ☐ Asian
- ☐ Native Hawaiian or Other Pacific Islander
- ☐ Other

APPENDIX B

INFORMED CONSENT

THE UNIVERSITY OF SOUTHERN MISSISSIPPI

Consent is hereby given to participate in the study titled: **Personality F11**

PURPOSE: The present study is designed to examine the association between personality and daily experiences. Results will be used to guide later research on personality.

DESCRIPTION OF STUDY: Participation will consist of completing several brief questionnaires via the internet. The completion of these initial questionnaires should take approximately 150 minutes and participants will receive 2.5 credits. In addition, participants may earn up to 3.5 additional credits by completing other internet-based questionnaires each evening for 7 consecutive days (i.e., each day is worth .5 credit). These daily measures should take approximately 30 minutes to complete each evening. Questionnaires completed via the internet will concern your feelings, attitudes, behaviors, and experiences.

BENEFITS: Participants are not expected to directly benefit from your participation. However, it is hoped that this study will contribute to our understanding of personality.

RISKS: No foreseeable risks, beyond those present in routine daily life, are anticipated in this study. If participants find they are distressed by completing these questionnaires, they should notify the researcher immediately.

CONFIDENTIALITY: You will place your name on the informed consent form and the internet-based questionnaires. At the conclusion of data collection for this study, all identifying information will be deleted. Data gathered from the present study will be stored in a secure location for six years, at which time it will be destroyed. Findings will be presented in aggregate form with no identifying information to ensure confidentiality.

PARTICIPANT ASSURANCE: Whereas no assurance can be made concerning results that may be obtained (since results from investigational studies cannot be predicted) the researcher will take every precaution consistent with the best scientific practice. Participation in this project is completely voluntary, and participants may withdraw from this study at any time without penalty, prejudice, or loss of benefits. Questions concerning the research should be directed to Dr. Mike Madson at (601) 266-4846 (or e-mail at michael.madson@usm.edu). This project and this consent form have been reviewed by the Institutional Review Board, which ensures that research projects involving human participants follow federal regulations. Any questions or concerns about rights as a research participant should be directed to the Chair of the Institutional Review Board, The University of Southern Mississippi, Box 5147, Hattiesburg, MS 39406, (601) 266-6820. A copy of this form will be given to the participant.

If you become distressed as a result of your participation in this study, then you should contact an agency on-campus or in the surrounding community that may be able to provide services for you. A partial list of available resources is provided below:

University of Southern Mississippi Counseling Center (601) 266-4829
 Pine Belt Mental Healthcare (601) 544-4641
 Pine Grove Recovery Center (800) 821-7199
 Forrest General Psychology Services (601) 288-4900
 Lifeway Counseling Service Incorporated (601) 268-3189
 Behavioral Health Center (601) 268-8826 Hope Center (601) 264-8898

If you experience distress as a result of your participation in this study, please notify Dr. Michael Madson (michael.madson@usm.edu).

- ☐ I give my consent to participate.
- ☐ I do not give my consent to participate.

*** Before you begin, please type your name as it appears in USM records. This will serve as your "electronic signature" that you agree to participate in this study. Your name will never be linked with your responses.**

First Name

Last Name

APPENDIX C

IRB APPROVAL



THE UNIVERSITY OF
SOUTHERN MISSISSIPPI

INSTITUTIONAL REVIEW BOARD

118 College Drive #5147 | Hattiesburg, MS 39406-0001
Phone: 601.266.6820 | Fax: 601.266.4377 | www.usm.edu/irb

NOTICE OF COMMITTEE ACTION

The project has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the "Adverse Effect Report Form".
- If approved, the maximum period of approval is limited to twelve months.
Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: 13022802

PROJECT TITLE: Influence of Parenting Styles and Protective Behavioral Strategies
on College Students' Alcohol Use and Consequences

PROJECT TYPE: Thesis

RESEARCHER(S): Saarah D. Kison

COLLEGE/DIVISION: College of Education & Psychology

DEPARTMENT: Psychology

FUNDING AGENCY/SPONSOR: N/A

IRB COMMITTEE ACTION: Expedited Review Approval

PERIOD OF APPROVAL: 02/28/2013 to 02/27/2014

Lawrence A. Hosman, Ph.D.
Institutional Review Board

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